



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Brian Causton et al.  
Serial No. : 09/773,962  
Filed : February 1, 2001  
Title : BATTERY

Art Unit : 1745  
Examiner : Tracy Mae Dove

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

DECLARATION OF ROBERT PAVLINSKY UNDER 37 C.F.R. § 1.132

I hereby swear:

1. I am an employee of The Gillette Company ("Gillette"), which owns the above-identified patent application. I have worked at Gillette for seven years, and have worked in the field of batteries for seven years.
2. I am not a co-inventor on the above-identified patent application.
3. I have reviewed the above-identified patent application. In my view, a person of ordinary skill in the battery art would understand that Figure 8 of the above-identified patent application (reproduced below) inherently discloses fluxes of gas that overlap upon contact with the surface of the cathode to form a generally non-circular flux of gas on the surface of the cathode:

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

December 9, 2004

Date of Deposit

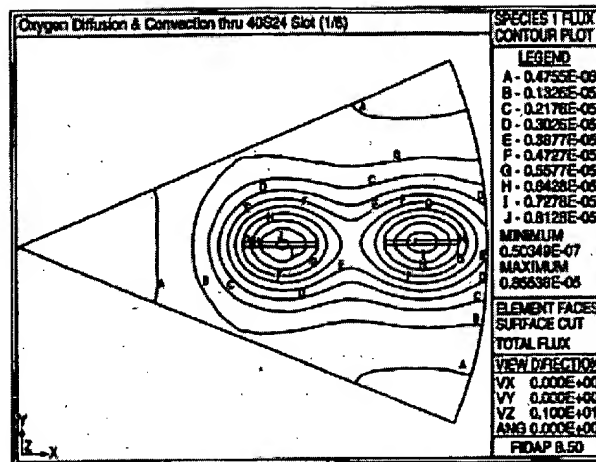
Diane C. Brown

Signature

Diane C. Brown

Typed or Printed Name of Person Signing Certificate

**FIG. 8**



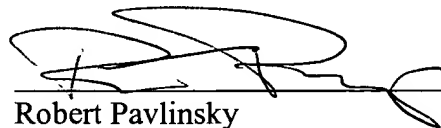
I further confirmed my view by consulting with Matthew Hull, an employee of Gillette who works in the area of air supplies to batteries. He confirmed that Figure 8 inherently discloses fluxes of gas that overlap upon contact with the surface of the cathode to form a generally non-circular flux of gas on the surface of the cathode.

4. It is also my opinion that, although the specification of the above-identified patent application states that Figure 9 “shows two slots that provide non-circular oxygen fluxes that do not overlap” (Application, page 9), Figure 9 actually discloses non-circular oxygen fluxes that overlap on the surface of the cathode to form a generally non-circular flux of gas on the surface of the cathode.

5. I have also reviewed U.S. Patent No. 6,284,400 B1 (Adey). Adey states that in his battery, “[t]he oxygen, of course, diffuses throughout the air reservoir, to reach all areas of the entire reaction surface [of the cathode assembly].” (Adey, col. 7, line 66 — col. 8, line 1.) However, Adey fails to support his statement that oxygen diffuses throughout the air reservoir with any modeling or experimentation. Furthermore, in my view, the extent of any such oxygen diffusion would be limited, and would not be sufficient to result in fluxes of gas from different

ports overlapping on the reaction surface of the cathode assembly. One reason for my belief that the extent of oxygen diffusion would be limited is that Adey's battery includes an air diffusion layer, typically formed of polytetrafluoroethylene, which "generally fills" the air reservoir of Adey's battery. (Adey, col. 6, lines 44-48.) Adey states that the PTFE air diffusion layer is "quite porous, and thus compatible with diffusion of oxygen through [the] air reservoir . . . ." (Adey, col. 8, lines 4-6.) However, I have worked with zinc air batteries including PTFE air diffusion layers, and in my opinion, the presence of the PTFE air diffusion layer in the air reservoir of Adey's battery would impede significant distribution of oxygen through the air reservoir. Because of this impedance of oxygen distribution, fluxes of gas originating from different ports would not overlap on the reaction surface of the cathode assembly.

6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that those statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



Robert Pavlinsky

12/01/04  
Date